DOCUMENT RESUME

ED 400 711 FL 024 191

AUTHOR Mostert, Mark P.

TITLE Contextual Thinking about Teaching: Special Educators' Metaphorical Representations of Practical Knowledge.

PUB DATE 96

NOTE 27p.; In: Bouton, Lawrence F., Ed. Pragmatics and Language Learning. Monograph Series Volume 7, p189-213, 1996; see FL 024 180.

PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS Comparative Analysis; General Education; Language Research; Linguistic Theory; *Metaphors; *Pragmatics; *Special Education; *Special Education Teachers; *Teacher Attitudes; *Teaching Skills

ABSTRACT

A study was undertaken to describe how special education teachers explained and viewed their teaching through use of metaphorical language, and how these compared with the responses of regular education teachers in previous research. Subjects were five certified special education teachers of children with mild disabilities. Data were drawn from videotapes of two lessons in each classroom, one the teacher felt confident about teaching and another that the teacher did not feel confident about, and through stimulated-recall interviews on the lessons and follow-up interviews. Results corroborate earlier findings on regular education teachers, and also allowed refinement of categories of ontological metaphor. Among the new findings were that the teachers had distinct notions about their relationships with their students as they moved through the lesson, and that the relationships were defined in terms of their metaphorical distance from and with students as teaching and learning occurred, and also in differential levels of ontological metaphor. Little evidence was found of some ontological categories, but extensive evidence of ontological subcategories and of a new category was found. Contains 61 references. (MSE)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 400 711

CONTEXTUAL THINKING ABOUT TEACHING: SPECIAL EDUCATORS' METAPHORICAL REPRESENTATIONS OF PRACTICAL KNOWLEDGE

Mark P. Mostert

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Lawrence F Boulton

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

BEST COPY AVAILABLE

FL023191

CONTEXTUAL THINKING ABOUT TEACHING: SPECIAL EDUCATORS' METAPHORICAL REPRESENTATIONS OF PRACTICAL KNOWLEDGE

Mark P. Mostert

This study used qualitative within case and cross-case analysis to document how experienced special education teachers used metaphors to describe their practical knowledge of teaching and how those representations compared to similar representations among regular teachers. Comparison of the study findings to previous research with general education teachers revealed that there were several similarities and notable differences between the teaching assumptions of regular and special educators in their descriptions of practical knowledge.

INTRODUCTION

While general teacher education has continued to address what teachers know and how they acquire their practical knowledge (e.g., Clark & Peterson, 1986), similar work in special teacher education is generally unavailable. The absence of such research is intriguing given a commonly held belief among practitioners that regular education and special education teachers appear to possess different teaching skills which may indicate different bases of practical classroom knowledge. Differences between regular and special educators, however, appear to be intuitive rather than empirical although some researchers are beginning to examine the relationship between special and regular educators, particularly to address whether there are any skills possessed by one group but not by the other (e.g., Seidenberg & Koenigsberg, 1990).

Experienced teachers possess complex representations of professional knowledge through their experiences with students over time and often employ metaphors to describe these constructs. Research examining the metaphors that experienced regular education teachers use to describe what they do has proved viable and fruitful (Carter, 1990a; Russell, 1988). However, there are no studies in the literature documenting the metaphors of special educators or comparing their metaphors to those of regular educators. There is little evidence, therefore, to indicate whether regular and special educators hold similar views about teaching or how they describe their practical teaching knowledge. Such investigations have important implications for both regular and special education because of the renewed interest in teacher education reform in general education teacher preparation, the influence of general education reform debates on special education reform rhetoric, the lack of attention to special educators' practical knowledge, and the intuitive belief that regular and special education teachers possess, at least partially, different teaching skills and bases of practical classroom knowledge.

The purpose of this study was to describe how special education teachers explained and viewed their teaching through their metaphorical language. The study was embedded in two general questions: (1) How do special education teachers use metaphor to describe their

practical knowledge of teaching? and (2) How do special education teachers' metaphorical descriptions of their practical knowledge compare to similar representations among regular education teachers? The study generated several outcomes, including empirical evidence of a previously unresearched area of teacher thinking, documentation of special educators' metaphors of practical classroom knowledge, support for higher-order conceptualizations of teachers' frames of teaching, refinement of Munby's (1987) orientational and ontological categories of metaphorical representation, and a comparison of special educators' metaphorical patterns to those of regular educators.

Review of the Literature

This study built on two primary areas of theory and research: One focused on the function of metaphor in language use; the other on the cognitions of teachers. These two areas intersect in the study of teachers' use of metaphor to describe their classroom practice as a way of understanding their practical knowledge.

Recent Views on Metaphor. Recently, several authors have argued for the study of metaphor as a means of investigating cognition and learning (e.g., Ortony, 1975) and as a legitimate endeavor outside of philosophy (e.g., Ortony, 1980). This research continues in the work of Johnson (1981, 1987), Lakoff (1987), Lakoff and Johnson (1980), Schon (1983, 1987), and Taylor (1984). Interest in metaphor in research on teaching and teacher education has also increased in the last decade (e.g., Morine-Dershimer, 1983; Munby, 1986, 1987, 1990; Russell, 1988).

Research on Teachers' Knowledge and Implicit Beliefs. Concurrent with more qualitative and interpretative methods of studying teaching, there has been a move in the social sciences to study cognition. In education, early studies reflecting this change include work by Jackson (1968), Kounin (1970), and Smith and Geoffrey (1968) which stimulated research on teachers' implicit understandings of their work (Carter, 1990a) and provided the foundation for study of the knowledge base for teaching from teachers' points of view (Cochran-Smith & Lytle 1990; Elbaz, 1988). Other early studies emphasizing what teachers know and the puzzle of how they acquire their knowledge of teaching (e.g., Bussis, Chittenden, & Amarel, 1976; Janesick, 1977) eventually led to a focus on teachers' practical knowledge (e.g., Connelly & Clandinin, 1990; Elbaz, 1983; Lampert, 1985), and, pertinent to this study, an investigation of metaphor as a way of accessing teachers' practical knowledge (Carter 1990b; Munby, 1982, 1984, 1985, 1986, 1987, 1990; Munby & Russell, 1989, 1990; Munby & Spafford, 1987; Russell, 1988; Russell & Munby, 1991; Russell, Munby, Spafford & Johnson, 1988; Tobin, 1990).

The Study of Metaphor as an Aspect of Practical Knowledge. Recently, scholars such as Johnson, (1987), Lakoff, (1987), Lakoff and Johnson (1980), Ortony, (1975, 1980), Reddy (1979), Ricoeur (1977), and Schon (1980, 1983, 1987, 1991) have encouraged the view that the study of metaphor has utility beyond literary or linguistic functions. In education, other researchers have acknowledged metaphor as a useful heuristic to generate understanding (e.g., Marshall, 1990) including the notion that teachers' use of metaphor can reveal much about their practical knowledge.

The extant literature describing teachers' use of metaphor to describe practical knowledge, has, however, been confined to general education, including several studies germane to this investigation, namely, Olson (1981), Morine-Dershimer (1983), Russell (1988), Provenzo, McKloskey, Kottkamp, and Cohn, (1989), Carter (1990b), Munby, (1990) and, most importantly, the findings of Munby (1987), which formed the analytical framework for the results reported here.

Olson (1981) based his study on the premise that teachers translate research into practice using a practical language derived from their need to influence and control classroom teaching events, concluding, in part, that much of what teachers know is intuitive and hidden behind a rhetoric of professional language. In addition, he suggested that researchers learn the language of teachers to advance the translation of theoretical innovations into practice.

Morine-Dershimer (1983) utilized three separate data collection methods on teacher thinking (stimulated recall interviews, Kelly Repertory Grid interviews, ethnographic descriptions of classroom lessons) to demonstrate the validity of research findings by triangulation. An unexpected result of her investigation revealed the rich imagery, themes, and metaphorical content of the participating teachers' language during the stimulated recall interviews which she used to construct composite descriptions of their thinking.

Russell (1988) investigated the metaphorical language used by teachers to describe the tension between theory and practice. He concluded that the teachers he studied felt that (a) what they learned at university was much less important than the need to accumulate classroom experience, which, in turn, was highly personal, (b) accumulating classroom experience was the only way to establish teaching behaviors and routines, and (c) experience might also give meaning to what was previously known to the teacher as "theory." In addition, Russell found that, for teachers, learning theory and practice appeared to be a single, reciprocally reinforcing process.

Provenzo, McKloskey, Kottkamp, and Cohn (1989) contended that metaphor fulfills two functions in teacher education in that (a) they are a way for teachers to categorize and simplify the complicated world of teaching and (b) for the researcher, the metaphors teachers use provide the means for interpreting what it means to be a teacher in American society.

Munby (1990) applied the study of metaphor to examine teachers' practical knowledge of curriculum. He reported that teachers' metaphorical descriptions of curriculum was a useful way of examining curriculum-in-use as opposed to the more traditional notion of curriculum-in-theory.

Carter (1990b) described how student teachers and their supervising teachers understood their work by constructing cases of teaching and by studying metaphors and metaphorical language. Based on the study of these cases and interviews, Carter formulated several metaphorical functions related to teaching and reported that student teachers found the exercise useful for reflecting on their concepts of teaching.

These studies support the analytical framework posited by Munby (1987), and used in this investigation. Munby contended that the richness of metaphorical speech provided useful information about how teachers structure their thinking about their professional activity by comparing the metaphorical content of two teachers' descriptions of their work. He noted the general orientational character of some metaphors found in the data (metaphors denoting movement or action, e.g. lesson as moving object) as well as several categories of ontological metaphor (metaphors attaching physical qualities to inherently abstract phenomena): time, grades, attention, lesson/class/ period, assignment/work, information/ideas, mind/ learning, and behavior/management.

These studies in general education reveal two important methodological features, namely, (a) the procedures and purposes for eliciting teachers' metaphors (natural use, cued use, and use in intervention for change) as well as (b) participants' levels of teaching experience (novice, experienced, preservice, and multiple-group studies). I discuss this literature elsewhere (Mostert, 1992). This literature, however, reveals no evidence of investigation of the use of metaphor by special education teachers through differential elicitation nor at different experiential levels. Hence, there is no evidence of comparison between the thinking of regular and special education teachers. Following the precedents established by the research with general education teachers, I investigated the use of metaphor by experienced special education teachers to describe their thinking about teaching.

TECHNICAL METHOD

The conceptual framework of the study was influenced by the prior empirical and descriptive studies above, especially the work of Munby and his associates who have directed their research toward how teachers use metaphor and image to describe their professional practice and decision-making. The study of teacher thinking through metaphor is based on the assumptions that (a) the metaphors teachers use when they talk about their work represent, at least in part, how they construct their professional realities (Bullough, 1991; Carter, 1990b; Munby, 1990; Tobin, 1990) and (b) the metaphors teachers select are relatively stable over time (Carter, 1990b; Tobin, 1990).

These assumptions have made investigators increasingly aware of the need to study teacher thinking in terms of the teachers' own language because it is insufficient to assume that teachers and investigators share the same perceptions about what teaching is or how teacher thinking is described (Munby, 1982; Olson, 1981; Roberts, 1984). Investigators, therefore, must (a) establish investigative conditions conducive to eliciting teacher talk, (b) learn the teachers' language of practice in order to communicate with in "classroom research," (c) translate helpful research ideas into the language of practice, and (d) allow teachers, through teacher/investigator dialogue, to build and extend their experiential base as a way of developing a more powerful language of practice (Olson, 1981; Yinger, 1987).

Obtaining information about a teachers' thinking via what they say, however, is difficult but can be mitigated by attending carefully to teachers' linguistic descriptions of their work. The closer the researcher remains to the language of the teacher, the more likely the findings are to be faithful to teacher perceptions. The investigator, therefore, allows interpretation of

the data to emerge from the language teachers select (Munby, 1990). Several investigative options have been proposed, including the Kelly Repertory Grid (Fransella & Bannister, 1977; Kelly, 1955; Munby 1984), discourse analysis (Cazden, 1986) and stimulated recall interviewing (Calderhead, 1981; Conners 1978).

Design

The study design was framed by the two research questions addressed through naturalistic inquiry, that is, inquiry in which (a) the natural setting is the direct source of data and the investigator is the key instrument, (b) reported findings are descriptive, (c) process is emphasized over outcomes or products, (d) investigators tend to analyze their data inductively, and (e) particularistic meaning is of essential concern (Bogdan & Biklen, 1992). Thus, naturalistic inquiry emphasizes understanding, explanation of the particular, and detailed description of complex phenomena (Bronfenbrenner, 1976; Lincoln & Guba, 1985).

Participants. I selected five special education teachers because of their teaching experience (at least five years), their area of expertise (educating children with mild disabilities), their technical status (state certification to teach special education), and their willingness to talk about their teaching. Four of the five teachers were female, one male. Paul and Marlene were high school teachers of students with emotional problems, Penny and Judy taught lower elementary students with learning problems, and Kim taught junior high school students with learning problems.

Data Collection and Recording. The data set consisted of videotaping two lessons in each classroom, conducting stimulated recall interviews on the videotaped lessons, and conducting follow-up interviews when necessary. Generally, stimulated recall interviews involve eliciting teacher reports of their thinking through a two step process of (a) videotaping teaching behavior and (b) interviewing the teacher a short while later using the videotape to aid the teachers' recall of the thought process at the time of the teaching behavior (Calderhead, 1981, 1988; Shavelson, Webb, & Burstein, 1986). Some researchers see this technique as more viable than either systematic observation (where description tends to be restricted) or participant observation (which tends to limit researcher insights). I selected stimulated recall interviews as the method of data collection because (a) it was consistent with, and effective in collecting data in similar studies with general educators, (b) there is support in the literature for it's efficacy (e.g. Calderhead, 1988; Gaier, 1954), and (c) many constraints of stimulated recall interviewing (e.g., the structure of the interview influencing any elicited responses; the appearance of many extraneous, distracting comments, etc.) can be minimized by ensuring that the participants see themselves as co-investigators rather than the more traditional role of researcher and subject. To this end, the teachers collaborated throughout the study by reading successive analytical drafts and provided feedback and correction where necessary so that the analysis would remain true to their descriptions of practical teaching knowledge.

Each teacher participated in two videotaped lessons: A lesson that they felt most confident about teaching and a lesson they felt less confident about teaching. They were asked to distinguish between these two lessons on such factors as their confidence in using instructional techniques effectively, their ability to handle student learning or behavior

problems, their perceptions of levels of student ability, and their motivation for teaching each particular lesson. The contrast between the two lessons allowed for a wider range of teacher response. The videotapes of these lessons focused on the teachers' actions and teaching activity with individual students or the class.

Data Analysis Procedures. The transcribed stimulated recall interviews were content-analyzed by the constant comparative method (Glaser & Strauss, 1967) first within each individual case to uncover with-in case contrasts, and then in a cross-case analysis to reveal any patterns across the data. I began the analysis by content-analyzing the transcripts of one teacher through several phases, each time refining entries into Munby's (1987) suggested categories, and by engaging in the constant comparison of what I found in one category or with one teacher with other metaphors across the data set. Metaphors that appeared to be unrelated to Munby's categories or which seemed to be of questionable value were listed separately. I then deleted from Munby's categories metaphors which appeared to be weak or isolated. I classified the remaining metaphors as either orientational (metaphors denoting movement or action) or ontological (metaphors attaching physical qualities to inherently abstract phenomena) and entered them into a matrix. I evaluated the remaining unclassified metaphors for their potential representativeness of a category not previously noted by Munby (1987). Finally, I compiled a list of assumptions about teaching reflected in each teachers' language of practice. I repeated this procedure with the second teacher's transcripts and with the remaining three teachers, refining the results by constant comparison within and across the transcripts and teachers.

Evaluation of the Design. I evaluated the appropriateness of the methodology in three ways. First, I applied Bronfenbrenner's (1976) criteria for ecological legitimacy for studying the microsystem, the core layer of his formulation. In this study, the microsystem was described through the metaphors or metaphorical language special education teachers used to describe their activities and roles. The design met all of Bronfenbrenner's propositions for ecological legitimacy at the level of the microsystem. Second, I applied Lincoln and Guba's (1985) four tenets of trustworthiness for qualitative studies (credibility, transferability, dependability, confirmability). The design met all four tenets as described by Lincoln and Guba (1985). Third, I conducted the study according to accepted ethical principles (American Psychological Association, 1989) to ensure confidentiality and to build trust with the participants.

RESULTS

General Impressions. Overall, the cases revealed that Penny and Judy, both lower elementary teachers, were more concerned with academic learning than the behavior of their students. They emphasized the importance of teaching the curriculum and explained elaborate ways of accomplishing this goal, consistent with their highly structured classes. Paul and Marlene, both high school teachers, were generally far more concerned with the inappropriate behavior of their students and how to teach appropriate social skills. Kim seemed to divide her professional insights equally between the academic and behavioral need of her students. Being a junior high school teacher, she still saw some hope of providing basic academic

skills but she was acutely aware that by the time students reached her, their disturbed behavior was beginning to cause major social and interpersonal problems.

All five teachers made extensive use of orientational metaphors for both academic and social learning interactions, although, individually, they tended to emphasize some aspects more than others. Metaphorical phrases common across several teachers did not always convey the same meaning. Equally pervasive was their use of ontological metaphors. The most commonly mentioned aspects of teaching were Munby's (1987) ontological categories of behavior and information, followed, in descending order, by strategy, ideas, attention, time, and assignment of schoolwork. There were very few ontological references to Munby's (1987) categories of work or lesson/class/grade. Furthermore, different metaphorical categories appeared to be important to different teachers. The teachers also alluded to a variety of ontological subcategories.

In addition to these general characteristics, a new ontological category, strategy, emerged. This category involved descriptions of cognitive teaching processes resulting in specific interactive plans to increase students' learning and socialization characterized by a rich mixture of ontological and orientational metaphors. Strategy was further characterized by an inherent flexibility closely related to the social construction of the actual, unpredictable teaching event between teacher and student.

General Character of Orientational Metaphor. The orientational metaphors used in the teachers' language of practice reflected their diverse personal views of what they did in the classroom. There were many instances where they used identical movement metaphors to describe identical concepts while at other times they used similar orientational metaphors to describe vastly different notions of teaching. I discuss the general character of orientational metaphor by elaborating on illustrative examples around the use of (a) an example of two of the orientational terms of "going," namely, "going over," and "going back," (b) the emergence of orientational metaphors with strong physical features, and (c) the teachers' orientational descriptions of their teaching relationship with students.

"Going." "Going over" was mentioned by three of the five teachers. For Penny, "going over" was an activity whereby old, familiar work was reviewed as a precursor to new, unfamiliar work. Penny observed: "We went over the exercises that she had already done...reading a little bit with her, going over it..."

Judy had a similar sense to Penny when she said "the students needed to "...read part of the paragraph over again...." She also alluded to this notion of old, familiar work review when she said "[I am concerned that] I didn't go over it like I should have today at the beginning of the lesson..." Judy added another dimension to the concept of "going over," though, when she communicated "going over" in the sense of review of familiar, but as yet unrecognized work where students "...go over things that [were not recognized]..."

The movement metaphor of "going over" seemed to have a quite different and more diverse sense for Kim. She used "go over" as a way of explaining the movement of information in relation to her students when she reported that "[if] I just stood up there at the front and said 'On Wednesday, and Friday, blah, blah...' it would just go right over

BEST COPY AVAILABLE

them." In another sense, she used this movement metaphor to connote a view of overcoming an obstacle when she explained that "He thinks that he can be obnoxious to them and they'll just get over it."

"Going over," then, connoted movement related to a current problem (review of old work both recognized and unrecognized); a lack of understanding; and surmounting an interpersonal problem. "Going over" also provided a rich tacit framework which described student learning. On the one hand, "going over" implied "staying on top" of a problem. On the other hand, learning could be "missed" if it went too far above the students' heads.

Three of the five teachers, Penny, Judy, and Paul, talked about "going back." Penny talked of "going back" to connote a sense of returning from the forward momentum of the lesson. She said:

> She [Jessica, the student] wanted to go on. She started and I said 'Jessica,' bringing her back. So I just brought her back by calling her name...she wanted to go on and I wouldn't allow that. I said, 'Let's go back to this.'

Penny also said that Jessica "goes back" on her own when the movement of the lesson paused at the end of an exercise. She explained that "If I say 'do it at the end,' she would forget to go back, and I would probably forget to go back and tell her." Penny then extended this notion of "going back" to her other students while still maintaining this particular sense of the movement metaphor: "...starting and stopping [for other students] I cannot do...they'll want to stop completely or they don't want to go back to it."

Penny used "back" in another sense when she talked of reminding a student to return to the work at hand. In this case "back" was related to reverting to work rather than to a forward movement of the lesson: "So rather than say, 'Colleen, get back to work' all I do is reach over and pat her." In another example, Penny said: "So then I took advantage of her having that experience, brought her right back into what Tom was telling me..."

Judy first used "going back" similarly to Penny when she described how forward movement through the lesson could be discontinued. She said: "I'm going back to it after every [other, recognized] sound. I go back to one [recognized] sound, then I go back to that [unrecognized] one..." She also used "going back" to explain how "back" could potentially restore forward motion of the lesson: "I think I went back and had them read part of the paragraph [because] they just didn't answer it. They were confused and so we needed to go back." Then she used "back" to indicate a reversal of progress through the lesson when she said "they still don't have counting backwards and forwards. I had to back up."

Paul's ideas presented several other aspects of "going back." In one instance he used the orientational metaphor to describe movement away from the special education class towards the mainstream when he said "...it's our goal to get them back out there." In another way, though, Paul echoed Judy's understanding when he talked of reversing his progress through the lesson to relocate to a place he had already passed as he moved through the lesson. He explained: "You've got to back up and go, 'How do I respond to this kind

of'situation?'" He also mentioned this notion later when he said: "When you step back from what you're doing, it's easy to see that [the explanation might have been less than clear]."

"Going back" generally seemed to mean more than a mere reversal of forward movement, although that sense was clear in examples which described a backtracking maneuver by the teacher or the learner to review or reinforce learning. "Going back" was also given a connotation of returning to work left previously and as a "promotion" to the mainstream. The antithetical tension was clearest, however, in the use of "going back" as a means for guaranteeing going forward through the lesson.

Physical Movement. All five teachers used powerful orientational metaphors of physical action to describe academic and social teaching interactions. I describe two representative examples.

Kim provided perhaps the most complete set of orientational physical metaphors to describe her management techniques. Her first reference indicated a vigorous movement metaphor: "I guess I'm really strict with them, and I jumped all over them in the beginning [of the year]." She went on to say: "So then I thought, well, I'll just work with him in a minute, give him something to do to keep him busy here for the next few seconds, and get the others started then jump on him." In one sense, "jump" alluded to Penny's connotation of a sudden movement for controlling student behavior. In another sense, Kim used "jump" to describe focusing academic help on a student, adding a less forceful physical movement figure in the form of "nudge:"

> Now, one of the children in particular has very poor eye contact, so I don't jump on him, but I watch his eyes for that glazed-over look which is a frequent happening, and I'll nudge him.

Apparently, a third, middle-ground solution, not as spirited as "jumping" and more forceful than "nudging," was also available: "It's really hard to lean on him and say, 'Do better.'" In addition, Kim referred to an even more aggressive physical image when she described a strategy she often used to discuss behavioral problems with her students: "There's lots of days when I kick out my lesson when they come in with something that they want to talk about."

Paul, like Kim, alluded to forceful orientational physical images to explain behavior management techniques. He also distinguished between less and more forceful images of the same metaphor. Initially, he talked of redirecting wandering student conversation by explaining: "I'll cut it off and try to bring it back in." This sense was given more power when Pete talked of stopping students' bragging about how they consume alcohol when he said: "As soon as they talk about that kind of stuff I'll cut the conversation off, dead."

Metaphorical references to physical movement appeared to possess a number of inherent qualities: (a) they required teacher effort, (b) they all indicated a metaphorical use of physical teacher strength directed at the students and the curriculum, (c) specific physical movement metaphors were more effective in some teaching situations than in others, (d) they were used to describe both academic and social teaching interactions, and (e) they had

different levels of intensity for different levels of teaching or management. Physical movement metaphors, therefore, supported a conceptual teacher assumption of teacher-directed academic and social instruction.

The Interactive Teacher-Student Relationship. All the teachers characterized their teaching with underlying assumptions about the distance between themselves and the students as they moved through the lesson. While there appeared to be a generally consistent sense of distance, all 5 teachers expressed other notions of distance dictated by the teaching task. For example, while Penny appeared to move through the lesson and learning in tandem with her students--a clear notion of "we," she also made passing references to other notions of distance for specific teaching purposes (see #4 under Strategy, below). Paul, on the other hand, let his students dictate the direction of the lesson. His view was one of "them and me." He was convinced that learning was more meaningful to his students if he could incorporate their views, comments, and adolescent subculture in the lesson content. Marlene combined some of these concepts when she (a) accompanied her students ("we"), (b) in other instances, followed her students as they moved through the lesson ("them") and (c) separated from her students at certain points, allowing them to move forward alone.

Kim and Judy, however, provided the most striking illustration of a different notion of distance. They saw themselves as dictating the pace of the lesson as they moved ahead of their students. The students then followed along while Judy and Kim adjusted the pace accordingly. Their comments rarely included references to "we," or "us" (as teachers with students) but were characterized instead by a sense of "me" or "us" (as teacher/s) and "them" (as students). For example, and in contrast to the "we" used by Penny, Judy observed that "what's happened is they've gotten stuck." In other places Penny provided evidence of a divide between herself and the students she taught when she recounted that "they miss that one sound," "they missed some of the words," "Colin missed this yesterday," and "they're going to continue to miss them." Judy alluded to this sense again when she combined her senses of "me" and "them" y saying: "The whole lesson kind of blends in to my deciding they need more drill in something."

Kim had similar perceptions of the gap between "me" and "them." She said: "I don't like to say, 'Look at me,' but I always explain to them 'that's how I know you're listening.' I always explain that to them." The distinction was even more pronounced when she alluded to "we" as being herself in a collective group with other teachers:

> I want them to see, because I really don't believe that they fully understand that we're gearing them up for the rest of their life, we're not just here to keep them off the streets. We're not just here to babysit them. I don't really believe that they understand that. So, I like them to see that they need to do this and this and this in order to get what they want in the end.

Both Kim and Judy described how they led by setting the pace of movement through their lessons while the students followed on in an attempt to keep up with the lesson tempo. Kim said: "That's me checking to see whether they're following at all" Judy echoed this sense when she said "I'm just trying to catch some of them up and move them out [to a different ability] group," and "I caught him up and put him in that group."

Judy and Kim's professional language was couched in terms of moving, stopping and starting, all indications of not having the students "with" them. Judy said "they still don't have counting backwards and forwards. I had to back up."

Kim echoed Judy's idea of a separation between teacher and students when she said:

> Something that I've learned with this group again with the speaking slow and everything,...I gave up a long time ago trying to give them more than one direction at a time. When it's one direction at a time and I wait...things run more smoothly...[I try] to see how they are progressing, whether they look confused. I always try to rate whether I'm going too fast or too slow. They won't tell me, some of them, but they will get very upset if I'm going too fast.

In this example, the control of the lesson was obviously with the teacher. There was little in the language of practice to convey a sense of collaboration or partnership, an aspect which was clear with some of the other teachers. Adjustment of movement through the lesson was based on the position of the learner in relation to where the teacher was--unlike Paul, who adjusted the locus of his teaching based on where his students were. For example, the learner might be "behind" and need to "catch up." For Judy and Kim, the teacher navigated movement through the lesson, and the learner followed.

General Character of Ontological Metaphor. Munby's (1987) ontological categories of metaphor were prominently represented in the language of the special education teachers. All 5 teachers mentioned attention, assessment, behavior, information, and time. In addition, my analysis uncovered a new category, strategy, mentioned by all 5 teachers. 4 teachers mentioned mind, ideas, management, and learning. 3 teachers mentioned grades. Other teaching aspects appeared less often and were deleted from the analysis. Table 1 summarizes how different teachers emphasized different ontological metaphors as being important and central to their teaching.

Strategy. All five teachers recounted articulate cognitive plans of instruction and management that they constructed prior to teaching. They described detailed strategies of how they were going to deal with specific events in terms of their cognitive preparation, rehearsal, execution, and adjustment for future similar situations, often mixing orientational and ontological metaphors to communicate the meaning of their maneuvers. The metaphorical descriptions of practical knowledge articulated in this category emphasize two essential points. First, all 5 teachers understood that their teaching and work in the classroom was a **process** which proceeded through a series of well defined and sequential steps from preparation, through execution, to adjustment for future teaching events. Second, and more important in terms of their practical knowledge, the teachers were acutely aware that this process had to be flexible given that the actual teaching event was reciprocally constructed through social interaction between themselves and their students.

I discuss a detailed example of strategy as a teaching process from Penny's language of practice where she described her thinking about planning and executing a student learning task. Penny's strategy involved introducing an extension activity into a routine reading lesson

with Jessica, a second grade student. Her plan revealed an intricate series of decisions and phases culminating in the assignment of the activity during the reading lesson.

Table 1: Frequency of Ontological Categories by Teacher

	Penny Raw/%	Judy Raw/%	Kim Raw/%	Paul Raw/%	Marlene Raw/%
1	Strategy 131/24.3%	Strategy 56/25.46%	Behavior 79/19.66%	Strategy 117/28.2%	Information 79/26
2	Assignment 98/18.18%	Attention 44/20%	Information 70/17.41%	Behavior 90/21.67%	Behavior 78/25.67
3	Attention 77/14.29%	Learning 41/18.64%	Management 60/16.42%	Information 60/14.5%	Strategy 50/16.5
4	Information 47/14.1%	Behavior 31/14.1%	Attention 44/10.9%	Management 49/11.8%	Time 30/9.87
5	Ideas 61/11.31%	Management, Time 13/5.1%	Assignment 29/7.21%	Ideas 31/7.47%	Attention 20/6.58
6	Behavior 47/8.72%	Information 10/4.55%	Learning, Strategy 29/7.21%	Learning 23/5.54%	Ideas 19/6.25
7	Mind 18/3.34%	Assignment, Mind 9/4.1%	Mind 27/6.72%	Attention 21/5.06%	Learning 10/3.29
8	Time 19/3.53%	Ideas 2/0.1%	Time 22/5.48%	Assignment 20/4.82%	Management 8/2.63
9	Grades 12/2.23%		Grades 7/1.74%	Time 4/0.96%	Assignment, Mind 4/1.32
Total	539	220	402	415	304

Note: > or < than 100% due to rounding.

First, before the project was devised, Penny possessed a preparatory knowledge base about Jessica and the curriculum content she would teach. She explained that Jessica had:

> ...been with me a long time and I know Jessica's come such a long way...She's grown to rely on me over the years. When you have a student for a long time, they kind of know you. That's just the type of student she is."

Penny also explained a little about her knowledge of the curriculum:

> Well, she was doing something outside of the basal. I hate using basal books with kids, especially LD kids. We read a story about Beatrix Potter in the basal so the skills were there. I have extended the lesson by having her come to the library, choose a book that Beatrix Potter wrote [and] read the book.

This knowledge about Jessica and the curriculum provided a crucial background in designing the learning task and the strategy to deliver it successfully.

Second, Penny revealed that she prepared the activity ahead of time based on her knowledge of Jessica and the curriculum. She said: "The project that I have decided for Jessica I had already in my head, I knew [before the lesson] I was going to do this..." Her preparation of the project involved several elements:

(1) A decision of what the activity would entail: "I feel good because I think it's an extension of not just learning about Beatrix Potter, but trying to see what it's like to be an author and trying to draw and do some fun things with books."

(2) Planning how to implement the project. Penny divided the implementation of the activity into two parts. First, Jessica was prepared ("I'm really going to set her up [with this activity]" and second, the activity was presented ("I am going to lay on [the activity] in a minute").

(3) Penny predicted an outcome of the activity: "I'm going to make a book and probably laminate it for her..."

(4) She tailored the activity to Jessica's needs and, in an acute example of the reciprocal, socially constructed flexibility of her teaching strategy, she modifies the process from her usual teaching distance of "we" to "her" (Jessica): "She loves [doing projects]" and "I give her choices. Especially with things that really don't make a difference, but make her feel like maybe she's got a little more control over what's going on because so much of her life is kind of out of control."

Third, once Penny had formulated the activity and planned how it would be delivered, she retained her strategy "in her head" and carried it with her to the lesson: "I myself know in my head what I'm going to do with it."

Fourth, during the lesson, Penny had an acute sense of timing for introducing the activity. As she sensed this time approaching, she began steering the lesson and Jessica towards the introduction of the activity, all the while remembering to meet Jessica's needs for control, Jessica's ability to make simple decisions, and Jessica's enjoyment of surprises. Penny accomplished this by asking Jessica to find her favorite part of the story. All that Jessica knew was that she must find her favorite part of the story--she had no idea that this instruction from Penny was leading to something much more complicated. Penny, however,

BEST COPY AVAILABLE

had a distinct knowledge of where this would lead: "She has no idea [about the activity]. Right now she just knows she's going to find her favorite part." Subtly, at the very time she wished it, Penny had introduced the activity. She recalled:

> [Telling Jessica all the steps of the project at once] would be too confusing for her. Too much information at once. One step at a time. Find your favorite part. Let's read it. Then I'm going to spring on her, 'Guess what, you are going to rewrite your favorite part and make it even more funny.'

Penny's description revealed one of the ways she utilized her cognitive processes to present a learning task. Her complicated strategy, richly layered in metaphors of professional language took into account a host of learner needs and curriculum characteristics.

The general sense of strategy which was so clear in Penny's example also appeared in the other teachers' descriptions of their teaching. Strategies were characterized by a conscious effort to plan, implement, and evaluate academic and social teaching interactions. Strategies were apparently not meant for general, across-the-board implementation, but appeared to be devised either for individual students or small groups. Because they were tailored so closely to individual or small group learning needs, their generic application was inappropriate.

Ontological Subcategories. In conducting the within-case analyses, some categories were mentioned more than others (See Table 1, above):

(1) 6 Categories (information, behavior, attention, time, assignment, strategy) were mentioned by all 5 teachers in one or more subcategories.

(2) 4 Other categories (mind, ideas, learning, management) were mentioned by 4 of the 5 teachers.

(3) 1 Category (grade/class/level) appeared negligibly, and was deleted from further analysis.

(4) 1 category (work) did not appear in the teachers' ontological references.

As the analysis progressed, it became possible to classify ontological references into subcategories. The frequency of ontological references across subcategories varied widely with no discernible pattern. I reduced the scope of further analysis by examining which of these subcategories within each category appeared across at least two teachers (see Table 2). Similar subcategories emerged for the rest of Munby's (1987) categories (except for lesson/class/grade) and strategy. Sample quotes for the subcategories appear in Table 3.

To illustrate these findings, I discuss the most complex subcategory, attention. Attention was ontologically referred to as missing object, as an embodiment of the whole student, as a manipulable object, and as an exchangeable value or commodity (see Table 4). References in attention subcategories revolved around tangible object qualities because the metaphors appeared to be attached to a physical sense of being able to "see" them.

Thus, attention-as-object can be "seen" in order to be manipulated, to pass among learners and to the teacher, and to describe the whole child. It must be "unseen" in order to be described as missing. The quality of exchange value, though, is a much more intangible metaphorical image indicating an unseen, but known, quality. The teachers' emphasis on attention reflects their knowledge of the importance of controlling inattention, a primary characteristic of students with mild learning handicaps. Gaining, keeping, and directing these students' attention, of course, is crucial for any type of understanding and learning.

Other results were visible from the analysis. Table 4 shows 10 common subcategories, used by at least two teachers across the 10 categories. The recurrence of subcategories across these 10 categories shows that the most common ontological appearances in the teachers' language of practice related to images of manipulation and commodity which appeared to share a number of common connotations. A brief discussion of these two chief subcategories will suffice to illustrate similar results uncovered in other subcategories.

Manipulation and commodity share a sense of describing "tangible" metaphorical objects that can be "seen" and therefore manipulated and handled. This rather "concrete" set of metaphorical references might indicate the teachers' perception of learning as grappling with the curriculum and the learners' acquisition of knowledge and skills. Furthermore, they might reinforce the pervasive concept of teacher-directed instruction so evident in the distance allusions of "us," "we," and "them." This argument can be supported further by the physical movement metaphors which all described teacher-initiated and controlled actions to direct and manage learning interactions.

Manipulation and commodity are also different because they connote contrasting senses of handling. Teaching manipulates the learner and learning for increased acquisition of knowledge and learning skills. Learning and lessons are malleable and have the potential to be changed and reshaped. Manipulation might also imply teaching skill and work necessary for reshaping. At least part of the teacher work and skill involved in manipulation implied that the learner and learning can be shaped for purposes other than that for which they were intended.

In another sense, manipulation also implied a sense of unfair influence exerted by the teacher on the learner with the intention of reaching a certain learning goal. Manipulation, which is mentioned across most of the categories, might also explain the pervasive willingness of the teachers to reshape and mold most aspects of their teaching to suit both individual and collective student needs for learning and behavior management. The utility of manipulation as a teaching assumption, then, appeared to lie in the possibility of change for effective learning.

Table 2: Pattern of Subcategories Across Categories by Teacher

Munby '87		Teachers				
Category, # subcats	Subcategory	Pen	Judy	Kim	Paul	Mar
Attention 5	Missing object	X	X	X		
	Whole student	X	X			
	Manipulation	X	X			X
	Exchange Value	X	X	X		
	Commodity		X		X	X
Information 4	Missing	X	X		X	
	Manipulation			X	X	
	Commodity	X	X		X	X
	Possession			X	X	
Time 3	Manipulation	X		X		X
	Exchange value		X		X	X
	Finite source	X		X		X
Behavior 3	Manipulation	X			X	X
	Commodity	X			X	
	Possession	X			X	
	Other		X	X		
Mind 3	Location	X		X		
	Container	X	X			
	Rates of Operation	X		X		
	Other				X	
Strategy 2	Manipulation	X			X	
	Commodity		X		X	
	Other					X
Assignment 2	Manipulation	X		X		
	Commodity			X		X
	Other		X		X	
Ideas 1	Container	X	X		X	
	Other			X		
Learning 1	Manipulation		X	X	X	
	Other					X
Management 1	Manipulation		X	X		
	Other	X				X

BEST COPY AVAILABLE

Table 3: Sample Quotes by Ontological Category and Subcategory

Category	Subcategory	Example
Attention	Manipulation of Object	"[One should] redirect kids' attention to the stimulus you're using."
	Object as Commodity	"...any attention is fine with him, so I try not to give him any."
	Missing Object	"Kent also pretty desperately seeks attention and approval, and so I wanted to let him know that he was doing something appropriate to seek attention."
	Exchange Val of Object	"That's me checking to see if they're paying attention."
	Describe Whole Object	"...they tend to wander."
Information	Manipulation of Object	"I'll ask them questions I think they can handle"
	Object as Commodity	"But the bottom line is that they need to get the information and learn it."
	Missing Object	"...they missed that one sound."
	Possession of Object	"...they want it for themselves sometimes..."
Time	Manipulation of Object	"...she doesn't usually take that much time..."
	Exchange Val of Object	"I'm spending half the time trying to get him to tell what it is that has him so disturbed..."
	Object as Fin Source	"We never have enough time for [instruction]"
Behavior	Manipulation of Object	"There's no letting her air out whatever she needs to air out..."
	Object as Commodity	"[Colleen] never gives me any problems behavior-wise"
	Possession of Object	"...they certainly have the behaviors which would qualify them for ED."
Mind	Object as/in Container	"Put[ing it right] in my own mind."
	Location of Object	"Jessica came to mind right away."
	Rates of Op of Object	"I know sometimes she gets so confused and her mind is going so fast that what she writes isn't [correct]."
Strategy	Manipulation of Object	"I'm really going to set her up."
	Object as Commodity	"...sharing my personal stuff with them up to a certain point seems to break down some of the barriers and they seem more trusting..."
Assignment	Manipulation of Object	"[I liked that] she was willing to take this [work] on and rewrite part of the story."
	Object as Commodity	"So I try to give them some kind of assignment on Friday."
Ideas	Object as/in Container	"She has this thing in her head [that] she cannot succeed."
Learning	Manipulation of Object	"...the other kids pick up on it for some reason."
Management	Manipulation of Object	"I noticed I was standing by him a lot today because it's hard to keep him tuned in."

BEST COPY AVAILABLE

Table 4: Common Categories Used by More Than One Teacher in Rank Order by Ontological Metaphor

Number of Subcategories per Category	5	4	3			2		1		
Ontological Subcategories	Munby's (1987) Categories									
	Att.	Info.	Time	Beh.	Mind	Strat	Ass	Manag	Learn	Ideas
Manipulation	X	X	X	X		X	X	X	X	
Commodity	X	X		X		X	X			
Missing	X	X								
Exchange Value	X		X							
Possession		X		X						
Container					X					X
Finite Source			X							
Location					X					
Rate of Operation					X					
Whole Person	X									

On the other hand, commodities were usually fixed and unchangeable. They were objects of known quantity and quality which could be passed among or between people. They might or might not have some form of attached value. Commodities were objects produced with a particular function in mind to suit particular purposes. As the purposes of exchange varied, so did the commodities used in transaction.

It is noteworthy that commodity metaphors often appeared in the same categories as metaphors of manipulation, perhaps indicating that these categories also possessed, at certain times, a fixed quality which could not be reshaped, but rather seemed to be fixed in space between the teacher and the learner. Attention, information, behavior, strategy, and assignment were objects which at times could be reshaped while at other times remained fixed and unmalleable. Equally important was the omission of commodity from the categories of time, management, and learning, indicating that these aspects of teaching were almost always reshaped where necessary.

Notably, the only two categories that did not allude to either manipulation or commodity were mind and ideas, the most abstract categories in the analysis. This might support the notion that in the teachers' language of practice manipulation and commodity were used to describe "seen" rather than "abstract" metaphorical images of teaching. The teachers, in utilizing the "seen," were therefore able to justify the importance of manipulation to reshape the learner.

Conceptual Assumptions Underlying Teaching

The teachers' language of practice revealed, through their use of metaphor, some cohesive sets of underlying assumptions about teaching, including four categories mentioned prominently by all five teachers: Effective teaching, learning, lesson pace, and students' ability to learn.

Effective Teaching. The teachers' practical language revealed that they viewed teaching as a dynamic undertaking requiring initiation, movement, and effort on their part, endeavors which produced a reciprocal student effort for learning. Effective teaching, therefore, grew out of mutual, goal directed effort. The teachers also made clear that in such effective teaching (a) the learner's potential for achievement was maximized, (b) actual learner achievement was supported, and (c) the ability of the learner had to be matched with an appropriate curriculum level.

Learning. Effective teaching appeared to be inextricably involved with student learning, and became plain in the teachers' agreement that the amount of student learning increased with a concomitant increase in time spent on teaching. Their observations also revealed that they viewed students' learning as grounded in previous and current knowledge: That (a) reviewing previously learned work was a way of assessing how much the learner had learned, and that (b) current work should be thoroughly learned before new work is introduced. They also extended the notion of learning to include a teaching strategy whereby learning occurred by making plain previously unknown information to the learner.

BEST COPY AVAILABLE

Pace of the Lesson. The participants' sense of pacing provided the third undergirding set of assumptions about teaching. All five teachers agreed that the objectives of the lesson were more effectively reached when there were no lesson interruptions, although they were equally clear that disrupting the pace of the lesson was permissible if the stoppage was for further instruction. To keep a balance between unnecessary stoppages and necessary stoppages for instruction, they all mentioned that the pace of the lesson was clearly enhanced by effective behavior management techniques.

Students' Ability. All five teachers made pointed comments about the ability of the students they 'taught. They reported that, for them as special educators, student learning was influenced by the learner's intellectual ability and the difficulty of the work. They further noted that, in terms of their students' learning that the ability to learn mediated the acquisition of knowledge and higher achievement levels. Ever mindful of their role in teaching the curriculum, they were also unanimous in their assumption that students' attainment of teaching goals was dependent on the students' ability to learn.

Special Educators' Metaphorical Language of Practice and the General Education Literature

Various aspects of this study support findings noted by other researchers in this area. For example, my findings support Olson's (1981) observations that teachers' metaphors are spontaneous and deeply embedded in their professional language. Furthermore, the special educators' use of metaphor revealed quite clearly their underlying assumptions about interactive practice in academic/behavioral teaching and learning domains. There was also evidence to support Olson's finding that teachers used differing images to suggest that they moved through the lesson with, ahead of, or behind their students. Olson's references to high and low influence teaching were also borne out among the special education teachers, whose descriptions of high influence teaching appear to be a hallmark of their practice. That is, they acted as "prime movers" who lectured, directed, and navigated--all ways of being firmly in control of the lesson.

Aspects of this research confirmed Morine-Dershimer's (1983) descriptions of the appearance of rich language of practice among regular educators as being present in the language of at least some special education teachers. Many metaphorical images appeared to be contextually connected within each teacher's thinking. In addition, several teaching themes appeared to span the thinking of all five teachers.

Among the special education teachers in this study, the movement figure previously described by Munby (1986) as a substantial component of orientational metaphor was substantiated. Furthermore, it was possible to discern some connections among the movement figures of all five teachers. In addition, figures of teaching similar to those described by Munby (1987) emerged through the uncovering of ontological metaphor. I found references to most of Munby's ontological categories and the appearance of a distinct ontological category, strategy, which did not appear in Munby's (1987) study. While I did not specifically address perceptions of curriculum, allusions similar to Munby's (1990) descriptions were apparent when the participants talked about the different individual learning goals of their students.

The special educators also appeared to use metaphors in a similar way to the teachers described by Provenzo, McCloskey, Kottkamp, and Cohn (1989). Their metaphorical language of practice identified their ability to categorize their thinking into several broad figures of teaching and showed that in some respects their categorization was different from that of regular educators (i.e., no lesson/class/grade and the appearance of the strategy category).

Some of Russell's (1988) findings also emerged in my analysis. For example, none of the special educators emphasized the importance of what they learned at university. Instead, their language was replete with references to their experiential learning over time in the classroom. Furthermore, the conceptual assumptions of practice revealed theoretical concepts of teaching in a personal and individual translation for classroom practice which substantiates the observations of Russell et al. (1988) because the metaphors used by the special educators clearly guided their practice.

Finally, all three aspects of metaphor mentioned by Carter (1990b) appeared in the special education teachers' language of practice in the present study. For example, the special education teachers used strong ontological metaphors which conveyed their affective involvement in aspects of behavior, attention, and strategy.

CONCLUSION

Munby's (1987) study provided a general framework for the findings reported here. My study of special educators' practical language supports and corroborates Munby's findings in that these teachers also showed an extensive, interrelated set of orientational and ontological metaphor in their language of practice. Several findings not only corroborated Munby's findings with general education teachers, but extended what was essentially a descriptive analytical framework. As with Munby's general education teachers, the special educators' language of practice revealed the rich complexity of the movement figure in conjunction with other orientational references. This study also allowed me to refine Munby's (1987) categories of ontological metaphor to show that, at least among these five participants, some ontological categories were used more extensively than others.

Several new findings emerged from the analysis. First, the overall sense of orientational references across the five teachers showed that they had distinct notions of their relationships with their students as they moved through the lesson. These relationships were expressed in terms of their metaphorical distance from and with their students as teaching and learning occurred, and also in the differential levels of ontological metaphor. Second, there were very few instances of Munby's ontological category of lesson/class/grade and no mention of his category of work. They did mention work, however, in an orientational sense. Third, the analysis revealed extensive evidence of ontological subcategories including the new category, strategy, which were differentially emphasized in the five teachers' language of practice. Fourth, a new ontological category, strategy, emerged from the analysis across all five teachers. This category appeared to have several features that precluded inclusion in any other category, and which contained an unusually strong mix of orientational and ontological metaphor describing a specific teaching strategy tailored to the individual learning

BEST COPY AVAILABLE

characteristics and needs of the learner. An important corroboration of strategy as a previously uncovered category used to describe practical knowledge was found in similar metaphorical representations which appeared in other ontological categories as well. Fifth, the analysis revealed a set of underlying implicit teaching assumptions which are similar to theoretical aspects of what we consider to be good teaching (e.g. Rosenshine & Stevens, 1986). In summary, this study revealed several important similarities noted in the literature relating to general educators using a purposive sample of special education teachers. While the similarities are quite extensive, several clear differences also emerged and warrant further study of other subgroups of special educators (e.g., teachers of children with severe and profound disabilities).

Finally, while beyond the scope of this paper, the results reported here raise several issues for further work. First, the connection between what teachers know, how they know it, and the relationship between their beliefs and their teaching actions remains a potentially fruitful area of investigation. Second, the origins of teacher's beliefs, largely unconscious and implicit, merit even more attention than what is currently being provided. Third, the nature and influence of the **process** governing the translation of beliefs (whether overt or covert) into teaching actions, and the quite obvious dissonance their beliefs to actions display, generally remains uninvestigated.

ACKNOWLEDGEMENTS

This research was supported by US Department of Education Grant HO23B10028 through the Office of Special Education and Rehabilitation Services granted for the author's dissertation research.

THE AUTHOR

Mark P. Mostert received his doctorate from the University of Virginia and is assistant professor of special education and coordinator for programs in learning disabilities at Moorhead State University. His research interests include teacher cognition, practical knowledge, and research synthesis.

REFERENCES

American Psychological Association. (1989) Ethical principles of psychologists. *American Psychologist*, 45, 390-395.

Bogdan, R.C. & S.K. Biklen. (1992) *Qualitative research for education: An introduction to theory and methods* (2nd ed.). Boston: Allyn & Bacon.

Bronfenbrenner, U. (1976) The experimental ecology of education. *Educational Researcher*, 5(9), 5-15.

Bullough, R.V. (1991) Exploring personal teaching metaphors in preservice teacher education. *Journal of Teacher Education*, 42(1), 43-51.

Bussis, A.M., F. Chittenden, & M. Amarel. (1976) *Beyond surface curriculum*. Boulder, CO: Westview Press.

Calderhead, J. (1981) Stimulated recall: A method for research on teaching. *British Journal of Educational Psychology*, 51, 211-217.

Calderhead, J. (1988) *Teacher's professional learning*. London: The Falmer Press.

Carter, K. (1990a) Teachers' knowledge and learning to teach. In W.R. Houston (ed.), *Handbook of research on teacher education*, (pp. 291-310). New York: Macmillan.

Carter, K. (1990b) Meaning and metaphor: Case knowledge in teaching. *Theory into Practice*, 29(2), 109-115.

Cazden, C.B. (1986) *Classroom discourse*. In M.C. Wittrock (ed.), *Handbook of research on teaching* (3rd ed.) (pp. 432-463). New York: Macmillan.

Clark, C.M. & P.L. Peterson. (1986) Teachers' thought processes. In M.C. Wittrock (ed.), *Handbook of research on teaching* (3rd ed.) (pp. 255-296). New York: Macmillan.

Cochran-Smith, M. & S.L. Lytle. (1990) Research on teaching and teacher research: The issues that divide. *Educational Researcher*, 19(2), 2-11.

Connelly, F.M. & D.J. Clandinin. (1990) Stories of experience and narrative inquiry. *Educational Researcher*, 19(6), 2-14.

Conners, R.D. (1978) An analysis of teachers' thought processes, beliefs, and principles during instruction. (Doctoral dissertation, University of Alberta, 1978). *Dissertation Abstracts International*, 36, ATR786.

Elbaz, F. (1983) *Teacher thinking: A study of practical knowledge*. New York: Nichols publishing.

Elbaz, F. (1988, September) *Knowledge and discourse: The evolution of research on teacher thinking*. Paper presented at the annual conference of the International Study Association on Teacher Thinking, Nottingham, England.

Fransella, F. & J. Bannister. (1977) *A manual for repertory grid technique*. London: Academic Press.

Gaier, E.L. (1954) *A study of memory under conditions of stimulated recall. Journal of General Psychology*, 50, 147-153.

Glaser, B.G. & A.L. Strauss. (1967) *The discovery of grounded theory*. New York: Aldine de Gruyter.

Jackson, P. (1968) *Life in classrooms*. New York: Holt, Reinhart, & Winston.

Janesick, V.J. (1977) An ethnographic study of a teacher's classroom perspective. (Doctoral dissertation, Michigan State University, 1977). *Dissertation Abstracts International*, 39, CDR887.

Johnson, M. (1981) *Philosophical perspectives on metaphor*. Minneapolis, MN: University of Minnesota Press.

Johnson, M. (1987) *The body in the mind*. Chicago: University of Chicago Press.

Kelly, G.A. (1955) *The Psychology of Personal Constructs*. New York: W.W. Norton & Company.

Kounin, J. (1970) *Discipline and group management in classrooms*. New York: Holt, Reinhart & Winston.

Lakoff, G. (1987) *Women, fire, and dangerous things*. Chicago, IL: University of Chicago Press.

BEST COPY AVAILABLE

Lakoff, G. & M. Johnson. (1980) *Metaphors we live by*. Chicago: University of Chicago press.

Lampert, M. (1985) How do teachers manage to teach? Perspectives on problems in practice. *Harvard Educational Review*, 55, 178-194.

Lincoln, Y.L. & E.G. Guba. (1985) *Naturalistic inquiry*. Beverly Hills: Sage.

Marshall, H. (1990) Metaphor as an instructional tool in encouraging student teacher reflection. *Theory Into Practice*, 29(2), 128-132.

Miles, M.B. & A.M. Huberman. (1984) *Qualitative data analysis*. Beverly Hills: Sage.

Morine-Dershimer, G. (1983) *Tapping teacher thinking through triangulation of data sets* (R & D Rep. No. 8014). Austin: University of Texas, Research and Development Center for Teacher Education.

Mostert, M.P. (1992) Metaphor in special educators' language of practice. Unpublished doctoral dissertation, University of Virginia, 1992.

Munby, H. (1982) The place of teachers' beliefs in research on teacher thinking and decision making, and an alternative methodology. *Instructional Science*, 11, 201-225.

Munby, H. (1984) A qualitative approach to the study of a teacher's beliefs. *Journal of Research in Science Teaching*, 21(1), 27-38.

Munby, H. (1985, April) *Metaphor in the thinking of teachers: A qualitative study*. Paper presented at the annual conference of the Journal of Curriculum Theorizing, Dayton, OH.

Munby, H. (1986) Metaphor in the thinking of teachers: An exploratory study. *Journal of Curriculum Studies*, 18, 197-209.

Munby, H. (1987) Metaphor and teachers' knowledge. *Researching the Teaching of English*, 21, 377-397.

Munby, H. (1990) Metaphorical expressions of teachers' practical curriculum knowledge. *Journal of Curriculum and Supervision*, 6, 18-30.

Munby, H. & T. Russell. (1989) Educating the reflective teacher: An essay review of two books by Donald Schon. *Journal of Curriculum Studies*, 21, 71-80.

Munby, H. & T. Russell. (1990) Metaphor in the study of teachers'professional knowledge. *Theory Into Practice*, 29(2), 116-121.

Munby, H. & C. Spafford. (1987) Response to Clandinin and Connelly. *Journal of Curriculum Studies*, 19, 507-509.

Olson, J. (1981) Teacher influence in the classroom: A context for understanding curriculum translation. *Instructional Science*, 10, 259-275.

Ortony, A. (1975) Why metaphors are necessary and not just nice. *Educational Theory*, 25, 45-53.

Ortony, A. (ed.). (1980) *Metaphor and thought*. Cambridge: Cambridge University Press.

Provenzo, E.F., G.N. McCloskey, R.B. Kottkamp, & M.M. Cohn. (1989) Metaphor and meaning in the language of teachers. *Teachers College Record*, 90, 552-573.

Reddy, M.J. (1979) The conduit metaphor--a case of frame conflict in our language about language. In A. Ortony (ed.), *Metaphor and thought* (pp. 284-485). Cambridge: Cambridge University Press.

Roberts, D.A. (1984) Theory, curriculum development, and the unique events of practice. In H. Munby, G. Orpwood, & T. Russell (eds.), *Seeing curriculum in a new light*. New York: University Press of America.

Rosenshine, B. & R. Stevens. (1986) Teaching functions. In M.C. Wittrock (ed.), *Handbook of research on teaching* (3rd ed.) (pp. 376-391). New York: Macmillan.

Ricoeur, P. (1977) *The rule of metaphor*. Toronto: University of Toronto Press.

Russell, T. (1988) From pre-service teacher education to first year of teaching: A study in theory and practice. In J. Calderhead (ed.), *Teachers' professional learning*. London: The Falmer Press.

Russell, T. & H. Munby. (1991) Reframing: The role of experience in developing teachers' professional knowledge. In D.A. Schon (ed.), *The Reflective Turn: Case Studies in and on Educational Practice*, (pp. 164-187). New York: Teachers College Press.

Russell, T., H. Munby, C. Spafford, & P. Johnson. (1988) Learning the professional knowledge of teaching: Metaphors, puzzles, and the theory-practice relationship. In P.P. Grimmett & G.L. Ericsson (eds.), *Reflection in teacher education* (pp. 67-89). Columbia University: Teacher's College Press.

Schon, D.A. (1980) Generative metaphor: A perspective on problem-solving in social policy. In A. Ortony (ed.), *Metaphor and thought* (pp. 255-283). Cambridge: Cambridge University Press.

Schon, D.A. (1983) *The reflective practitioner: How professionals think in action*. New York: Basic Books.

Schon, D.A. (1987) *Educating the reflective practitioner: How professionals think in action*. New York: Basic Books.

Schon, D.A. (ed.). (1991) *The reflective turn: Cases in and on educational practice*. New York: Teacher College Press.

Seidenberg, P.L. & E. Koenigsberg. (1990) A survey of regular and special education high school teachers and college faculty: Implications for program development for secondary learning disabled students. *Learning Disabilities Research*, 5(2), 110-117.

Shavelson, R.J. & P. Stern. (1981) Research on teachers' pedagogical thoughts, judgements, decisions, and behavior. *Review of Educational Research*, 51, 455-498.

Shavelson, R.J., N.M. Webb, & L. Burstein. (1986) Measurement of teaching. In M.C. Wittrock (ed.), *Handbook of research on teaching* (3rd ed.) (pp. 50-91). New York: Macmillan.

Smith, L.M. & W. Geoffrey. (1968) *The complexities of an urban classroom*. New York: Holt, Reinhart, and Winston.

Taylor, W. (ed.). (1984) *Metaphors of education*. London: Heineman.

Tobin, K. (1990) Changing metaphors and beliefs: A master switch for teaching? *Theory Into Practice*, 29(2), 122-127.

Yinger, R.J. (1987) Learning the language of practice. *Curriculum Inquiry*, 17, 293-318.